



Background and Issues Paper

Plain English Version

This document is a plain English version of the Background and Issues Paper that was released by the Fracking Inquiry on 20 February 2017. The Background and Issues Paper is available on the Fracking Inquiry's website at www.frackinginquiry.nt.gov.au

This document has been verbally translated into various languages by the Aboriginal Interpreters Service. The translations have been recorded and will be played at community meetings held in Maningrida, Gapuwiyak, Nhulunbuy, Ngukurr, Borroloola, Daly Waters, Mataranka, Timber Creek, Wadeye, Yuendumu and Hermannsburg between 20 and 29 March 2017.

Chapter 1: This meeting is about 'Hydraulic fracturing' and the Fracking Inquiry.

1. These people are here to talk about 'Hydraulic Fracturing'. Another short word for it is 'Fracking'.
2. Fracking is a way to get gas out from 'shale' rock, a long way underground, using water, sand and chemicals.
3. When Labor won the election in 2016, they stopped gas companies from using fracking to get shale gas out of the ground until they could know more about it.
4. In December 2016, the Northern Territory Government set up an independent Inquiry about fracking.
5. The Northern Territory Government wrote the 'Terms of Reference' for the Inquiry but isn't doing that work.
6. The Terms of Reference tell the Inquiry panel what it has to find out about – what their job is.
7. Their job is to find out, if the Government let the gas companies do fracking in the NT, would that be good or bad for people and country?
8. They need to find out about what problems fracking might make.
9. They need to find out about good things from fracking too.
10. The Inquiry Panel will then write a report. They will write what the problems are with fracking and if Government or gas companies can do anything to try and stop the problems.
11. They will give that report to the Government in December 2017.
12. Then, the Northern Territory Government will think about the report and decide if they should say yes or no to fracking.
13. The Inquiry is separate from the NT Government. It is not part of the Northern Territory Government.
14. The Government cannot tell the Inquiry Panel what to write in their report.

Chapter 2: Who is on the Inquiry Panel?

15. One Judge from New South Wales Land and Environment Court is the Chair of the Inquiry Panel. Her name is Justice Rachel Pepper.
16. The Deputy Chair of the Inquiry is Professor Barry Hart. Barry is an expert in water science.

17. There are another 9 very experienced scientists on the Inquiry Panel.
18. They are specialists in water science, social science, ecotoxicology, geology, health, engineering and biology.
19. There are some people from Northern Territory Government supporting the Inquiry Panel.
20. The Chair and some of the scientists are here today, and some people from NT Government.
21. The Inquiry must talk and listen to people living in the Territory.

Chapter 3: What are the Inquiry Panel doing?

22. The Inquiry Panel wrote a document called "Background and Issues Paper". They put it on the internet on the 20 February. The Inquiry Panel has copies of the Issues Paper here today.
23. In the Issues Paper, they wrote down all the problems that might happen from fracking and the good things, if the Government says yes to fracking in NT.
24. Now, they need to talk to people around the NT - about fracking, about the Inquiry, about that 'Issues Paper'. And they want to ask *you mob* what you are worried about with fracking and gas business.
25. They want to know if the problems they put in the Issues Paper are the right problems - is that why you mob are worried, or are you worried about other things?
26. They are having these meetings around the NT - at Darwin, Katherine, Tennant Creek and Alice Springs, then Maningrida, Gapuwiyak, Nhulunbuy, Ngukurr, Borroloola, Daly waters, Mataranka, Timber Creek, Wadeye, Yuendumu and Hermannsburg.
27. You can talk up today, during the meeting, or you can talk to the Inquiry Panel after - maybe call them, write an email or letter, or talk to them next time they visit the community.
28. After these meetings, they will write an 'Interim Report' in the middle of the year - maybe June or July, like an update on what they've found out, and they will put it on the internet.
29. Then, they will come back to communities again to talk about it. They will bring copies of the report with them for people in communities.
30. In about October, they will show everybody a 'draft Final report'.
31. They will come back to communities again to talk about that one.
32. They will give that final report to the Government in December this year.

Chapter 4: Different types of gas - 'conventional', coal-seam and shale gas

33. There are different types of gas that gas companies get out of the ground.
34. Today we (inclusive) are going to talk about three different types of gas in the Northern Territory: conventional gas, coal-seam gas and shale gas.

Conventional Gas

35. One type of gas they call 'conventional' gas.
36. In Picture 1 of the handouts, they drew where they find conventional gas in red, on the right-hand side.
37. For a long time, hundreds of years, gas companies have dug 'vertical wells' straight down to where there is a bubble of gas.
38. There is a hard layer of rock, they call it a 'confining layer', and the gas gets stuck under that rock.
39. The well goes down through that layer and they take the gas out.
40. They call that gas 'conventional gas'.

Coal Seam Gas

41. Coal seam gas – is another type of gas. They take that type of gas out on the east coast of Australia. The gas sits in cracks between coal.
42. Coal seam gas is not very deep down, it is very close to the surface and ground water.
43. In order to get the gas out of coal seams you need to pump water out of the water table.
44. In picture 1, they drew the coalbed where the coal seam gas is in black on the left hand side.

Shale Gas

45. The Inquiry is not talking about conventional gas or coal seam gas. They are talking about ‘shale gas’.
46. Shale gas is inside shale rock, and that shale rock is deep underground – beneath coal seam gas.
47. The shale rock is maybe 1km going straight down, or maybe right down to 4km underground.
48. Shale gas doesn’t build up or pool anywhere, it stays inside the rock.
49. In picture 1, they drew shale rock, there the shale gas is, in a big black line along the bottom.

Chapter 5: Hydraulic Fracturing – Fracking

50. For a long time, scientists didn’t know how to get the gas out of the shale rock.
51. Engineers have been making new machines and new ways to get that gas out.
52. Now, they can drill right down, below the water table, maybe from 1km or maybe 4kms down, until they find the shale rock.
53. They put cement and steel around the hole, so ground water doesn’t go down and so the gas stays in the well.
54. Then, they drill along it sideways. They call this a “horizontal well”.
55. Then, they do ‘hydraulic fracturing’ or ‘fracking’ – they pump the water, sand and chemicals into the shale rock with a lot of pressure.
56. Picture 2 is about fracking.
57. The water breaks the shale rock open; then the sand gets stuck between the pieces of rock.
58. Then the gas can come out from the rock.
59. In Picture 3, you can see the sand going in the cracks in the rock and the gas flowing out of the rock.
60. Sometimes “shale gas” is called “unconventional gas” because it uses new ways of getting gas out - like horizontal (sideways) drilling and hydraulic fracturing.

Chapter 6: What do they use for fracking shale rock?

61. They use water, sand and chemicals to split the shale rock and take the gas out.
62. They use a lot of water to split the shale rock so the gas comes out, maybe the same water to fill up 10 x 50 metre swimming pools to do fracking in one horizontal well.
63. They put chemicals in the water to do 4 things:
 - o To make the water like jelly, so it carries the sand properly down and into the cracks in the rock – like chemicals that make toothpaste or lipstick or to make ice-cream a bit hard
 - o To make the water flow again, and take down the pressure – like the chemicals in hair bleach
 - o To stop bacteria growing in the well – like disinfectant
 - o To help start the crack in the rock – like swimming pool cleaner

64. The chemicals they put in is a small amount of everything they pump down the well -about one percent.
65. The sand they put in is about five percent.
66. Most of what they pump down the well is water. See Picture 4.
67. There is a list of chemicals that gas companies use for Fracking in the 'Issues paper' with more information. This picture with the chemicals from the Issues paper is also in the handouts.

Chapter 7: If gas companies do fracking, what problems might happen?

68. The Inquiry panel think that if gas companies do fracking for shale gas, maybe there will be problems.
69. They worry there will be problems if the companies don't do it properly.
70. In the 'Issues paper', the Inquiry panel wrote down lots of those problems.
71. They were thinking about problems for 9 things: water, land, air, health, Aboriginal culture, social problems, money problems, land access and laws for the gas industry.
72. The Inquiry panel don't know if these are big problems or little problems yet.
73. They will look at the science, then they will decide.
74. Today, they want to tell you about those problems they wrote about in the Issues paper and ask you what you think.
75. They also want to know if you are worried about other problems that they missed, that they didn't write about in that paper yet.
76. Now, we (incl) will talk about each type of problem and ask you about it.

Chapter 8: Worries about water – ground water

77. We will talk about 3 different problems about water.
78. First we will talk about 'Groundwater'

Groundwater

79. Scientists call the water underground 'ground water' or they call it 'aquifers'.
80. When people dig a bore for drinking water or to grow crops on farms, they are taking this water from the 'aquifer'.
81. When a gas company drills a hole down to the shale rock, they drill into the aquifer and keep drilling below.
82. They put steel and cement – called "casing" – around the hole so the water can't get into the hole and so the gas and fracking water don't leak out.
83. Maybe the steel and cement might crack, then gas might go into the ground water and make it bad – you couldn't drink it or use it for watering farms.

- 84. Are you worried about what will happen to groundwater when they do fracking?
- 85. What do you think? What are you worried about?

Chapter 9: Worries about Surface Water – like rivers and lakes

- 86. When they do fracking for gas with water, sand and chemicals, after it breaks the rock, that fracking water comes back up the hole – they call this “flowback water”
- 87. They keep that flowback water in ponds above ground.
- 88. That water has chemicals and other things from the ground.
- 89. Sometimes they treat that water – put other chemicals in it – and use that same water to do fracking again.
- 90. Maybe that flowback water or the fracking chemicals could spill into rivers or lakes and make it dirty or even poison the water, for people and animals.
- 91. Are you worried about rivers and lakes becoming dirty or poisoned if they do fracking?
- 92. What do you think? What are you worried about?

Chapter 10: Worries about water supply (how much water)

- 93. They use a lot of water to do fracking.
- 94. They can use groundwater, surface water – like from rivers, or they can bring it in with a truck or through a pipe.
- 95. If the gas companies use too much water, maybe there won't be enough water for everyone else.

- 96. Are you worried about them using too much water if they do fracking?
- 97. What do you think? What are you worried about?

Chapter 11: Worries about soil

- 98. We talked about maybe the flowback water spilling into rivers.
- 99. Maybe the flowback water and chemicals could spill on the ground and make the soil bad.
- 100. Are you worried about the soil if they do fracking?
- 101. What do you think? What are you worried about?

Chapter 12: Plants and Animals

- 102. Plants need lots of water to grow and animals need good water to drink.
- 103. If fracking uses too much water, maybe there won't be as many plants and animals.
- 104. If fracking makes the water dirty, maybe there won't be as many plants and animals.
- 105. If they start fracking, they will clear land for roads, for pipes to take the gas away and for digging the well and the ponds of flowback water.
- 106. That will mean less plants and maybe less animals.
- 107. Are you worried about plants and animals on your country if they do fracking?
- 108. What do you think? What are you worried about?

Chapter 13: Parks and places where people go fishing

- 109. There are lots of good national parks and places to go fishing in the Northern Territory; they are different to parks in other parts of Australia and the world.
- 110. Maybe if they do fracking, chemicals could make the water in national parks and fishing spots dirty or poisoned, so people couldn't go there.
- 111. If there is more gas business, there might also be more traffic and noise, maybe near national parks and fishing spots.
- 112. Are you worried about national parks and fishing spots if they do fracking?**
- 113. What do you think? What are you worried about?**

Chapter 14: Air – gases that go into the sky

- 114. The types of gas that the companies get out when they do fracking in shale rock are “methane”, “ethane” and sometimes “carbon dioxide”.
- 115. Scientists call these gases “Greenhouse gases”.
- 116. These gases are bad for the environment and might be bad for climate change.
- 117. Are you worried about gases in the air if they do fracking?**
- 118. What do you think? What are you worried about?**

Chapter 15: Worries about health and people getting sick

- 119. We talked about the chemicals gas companies use when they are fracking, that might spill into rivers or on the land or get in to the food.
- 120. We talked about the gases that might go in the sky from fracking.
- 121. When they do fracking, they use lots of machines and engines that run on diesel, so there will be diesel smoke around that well while they are working.

- 122. Are you worried about these things making people sick?
- 123. What do you think? What are you worried about?

Chapter 16: Worries about Aboriginal people and their culture

- 124. Water is important to Aboriginal people.
- 125. In some areas, water can be sacred to Aboriginal people.
- 126. Land, plants (trees) and animals are also important to Aboriginal people. Land may need to be cleared and there may be damage to sacred sites.
- 127. Do you have any questions or worries about whether fracking is good or bad for your culture and sacred sites?
- 128. Do you think it will/would be good or bad for your culture if the gas project came to your community?

Chapter 17: Social problems

- 129. If the gas project came to this community, that would mean more roads, more pipes and more traffic. It also might mean more people (living) in your community.
- 130. It also might change lots of things in the community, like employment – maybe more jobs, it might change cost of living
- 131. Maybe things would be more expensive, maybe cheaper,
- 132. Maybe you are worrying about housing – are there enough houses? Who gets the houses?
- 133. Worries about health services – maybe they would bring in more doctors, but maybe there wouldn't be enough doctors, or space in the hospital
- 134. Maybe too many children for the schools
- 135. Maybe too much traffic on the roads, or maybe they will build new roads
- 136. Maybe there will be more business, or maybe fracking would make a problem for businesses
- 137. Maybe there would be more crime in the community?

- 138. What do you think? What are you worried about?
- 139. Do you think it would be good or bad if the gas project in your community?

Chapter 18: Worries about money

- 140. If the government said 'yes' to fracking and the gas industry, it might mean more money for the Northern Territory.
- 141. The Northern territory Government owns the gas underground, even if they don't own the land. So gas companies would pay money to the Government for the gas – they call it a statutory royalty.
- 142. Maybe Traditional Owners would get money from agreements under the *Native Title Act* or *Aboriginal Land Rights (Northern Territory) Act*
- 143. Pastoralists on stations might get to use new roads, or maybe the gas companies will pay them to come onto their land.
- 144. The gas industry might pay other businesses to do work for them or work with another business
- 145. There might be more jobs for people to work for the gas companies
- 146. Or maybe there will be more work and business because there are more people in the community or town.
- 147. But, maybe the prices will go up in the shops.
- 148. Maybe things like water will be more expensive.
- 149. It might be hard for farmers and other businesses if water is more expensive.
- 150. What do you think?
- 151. Do you think the gas project will bring more money or less money to the community and the NT?

Chapter 19: Worries about gas companies accessing land

- 152. In other parts of Australia, the gas companies and land owners have had problems about access to land.
- 153. Traditional Owners and other Land owners own the land, but the government owns the gas that is underground.
- 154. The government can give title to gas companies to get the gas from underground - it doesn't matter who owns the land.
- 155. There are rules when gas companies want to enter Aboriginal land or native title land.

- 156. Gas companies have to ask Traditional owners agree to let them enter traditional lands.
- 157. When TOs say yes, then they can come in and start fracking work.
- 158. **Are you worried about the way gas companies talk to land owners, traditional owners or people living and working on the land about access?**
- 159. **What questions do you want to ask about gas companies coming onto properties?**

Chapter 20: Laws for the Gas Industry

- 160. If the Government says “yes” to fracking, they will have to write new laws to protect people and the environment.
- 161. Those new laws would have to look after the environment – water, land and air
- 162. They must look after traditional owners and other people who own land, like farmers
- 163. They must protect people, so they don’t get sick
- 164. They must protect Aboriginal culture
- 165. They must protect communities
- 166. They must make it fair for all Territorians, so everyone gets good things from fracking, not only a few people.
- 167. Those laws would have to be clear – so everyone understand them and thinks the same way.
- 168. The laws would also need to make a regulator – an office that watches gas companies carefully and makes sure they are following the laws.
- 169. That regulator must be separate from the gas industry and may be separate from government.
- 170. **What laws do you think the government would need to make for the gas industry if they say yes to fracking?**

Chapter 21: Feedback - How can you talk to the Inquiry workers?

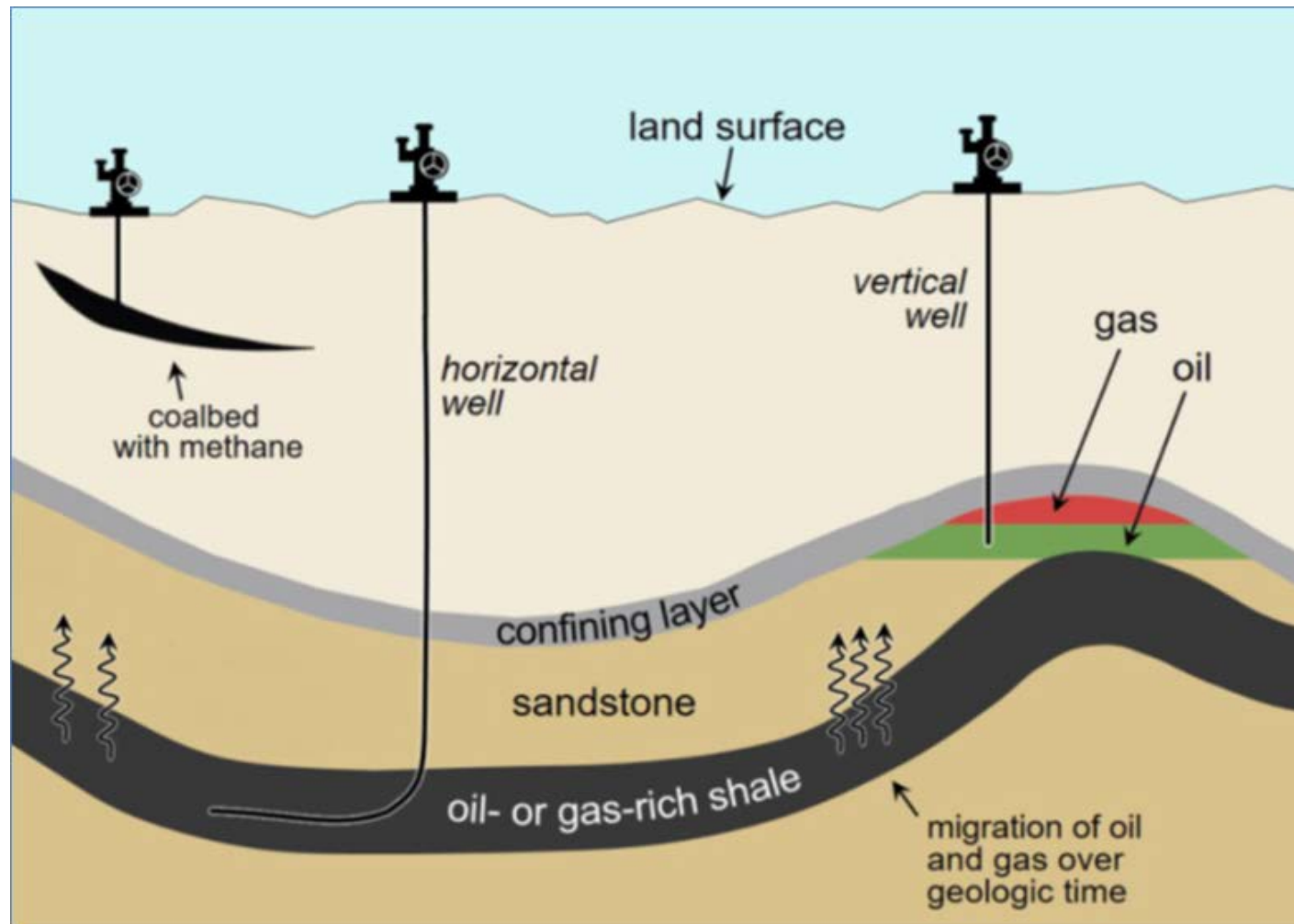
- 171. Today we talked about fracking, the inquiry and problems that might happen if the Government says yes to fracking.
- 172. You mob can look at the website to read more about it frackinginquiry.nt.gov.au
- 173. On that website, you can sign-up for email updates from the Inquiry too.
- 174. The Inquiry panel wants to know what you mob think.
- 175. Tell them what you think.

176. Tell them what you are worried about.
177. Talk to them today
178. Or, call them on 8999 6573
179. Or, write them an email – their address is fracking.inquiry@nt.gov.au
180. Or, write them a letter - Hydraulic Fracturing Taskforce, GPO Box 4396, Darwin, NT 0801
181. Or, send them a video telling them what you think.
182. They also wrote these phone numbers and addresses in the Issues paper and in the hand-out.
183. Or, talk to them when they come back to the community in July or August.
184. The date for the next time they will visit will be on the website and on the BushTel website.

Picture 1

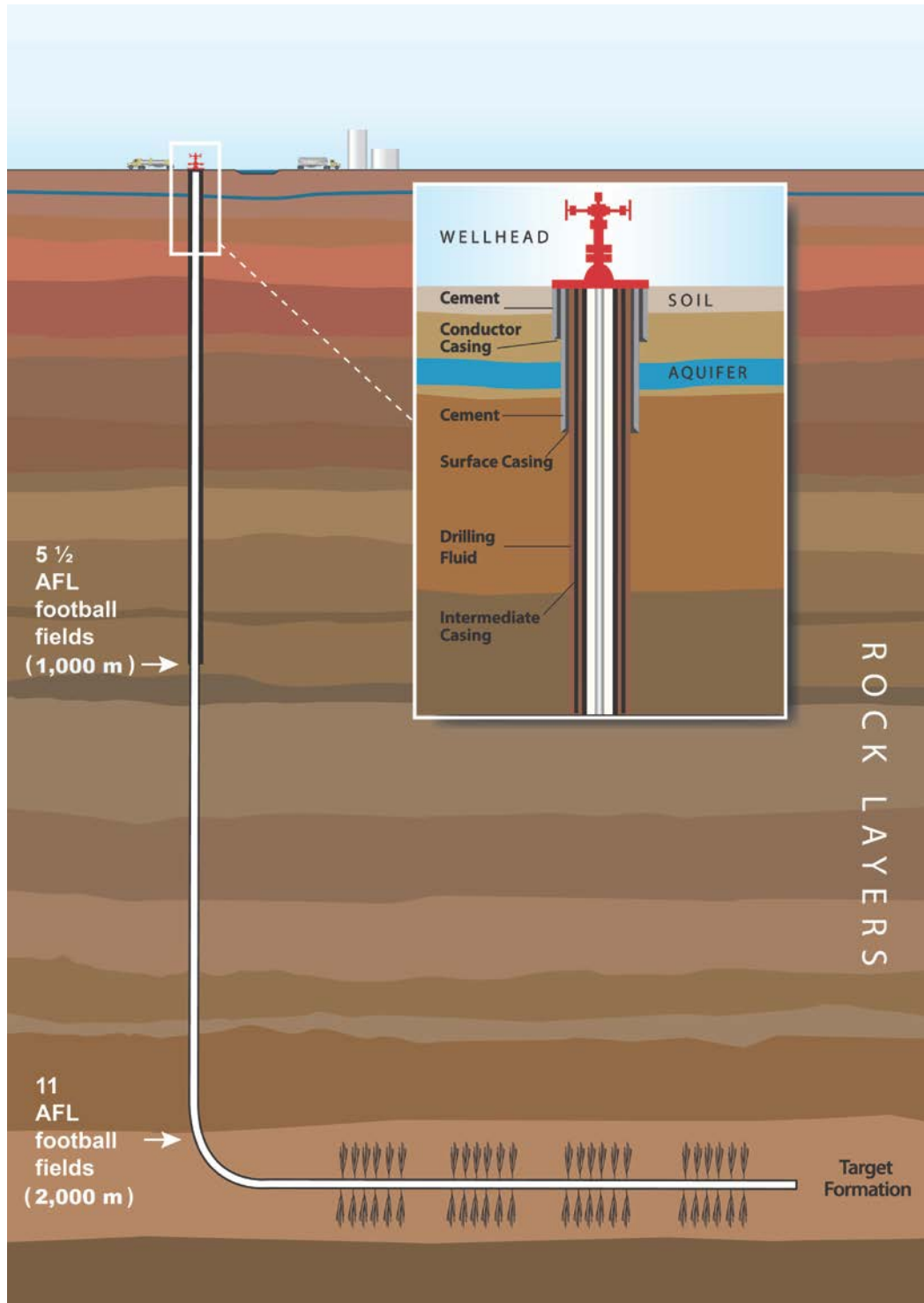
Shows the difference between:

- Coal seam gas (left hand side)
- Shale gas (horizontal well in the middle) and
- Conventional gas (right hand side in red)



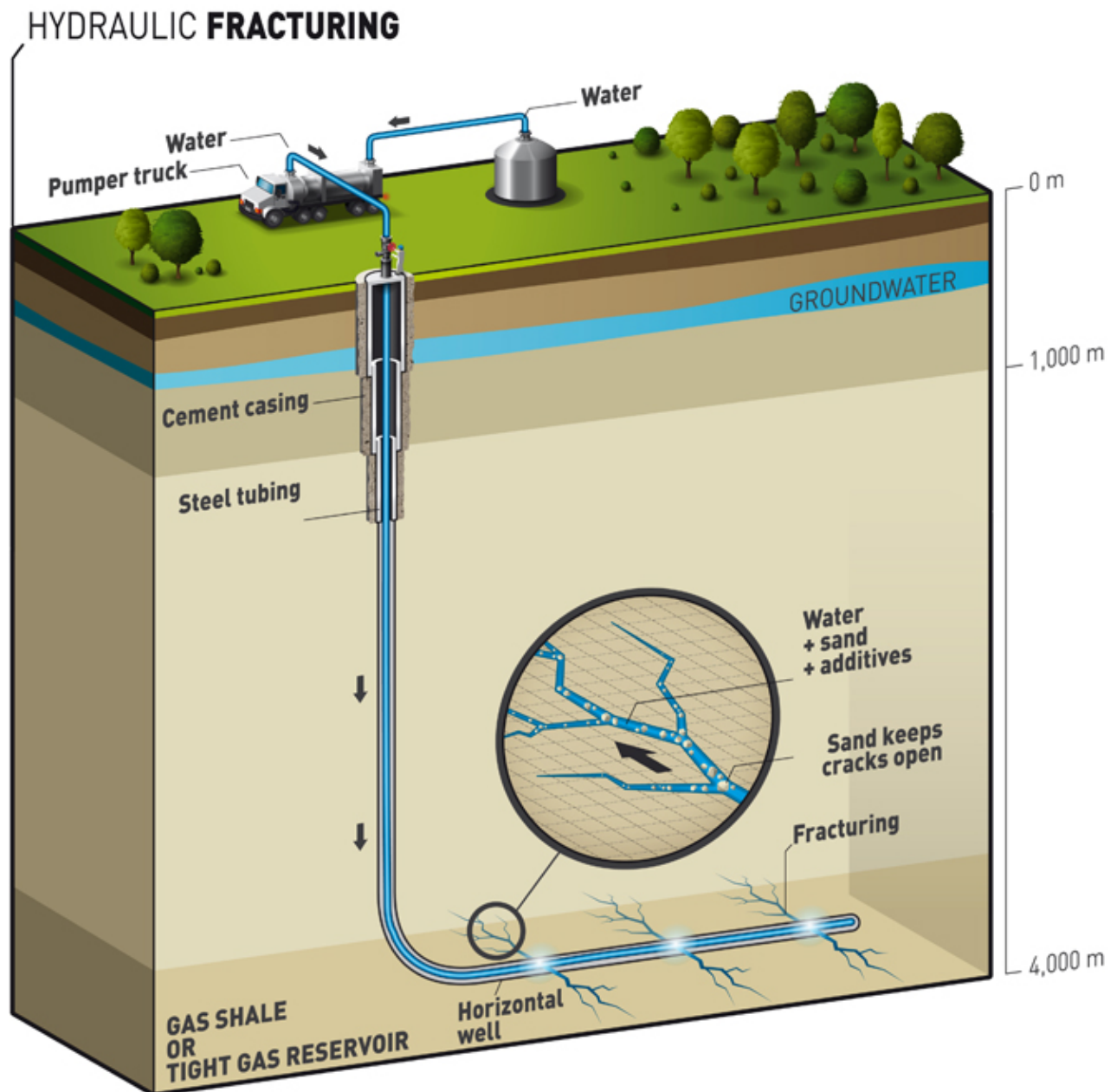
Picture 2(a)

Shows well construction, casing and horizontal drilling.



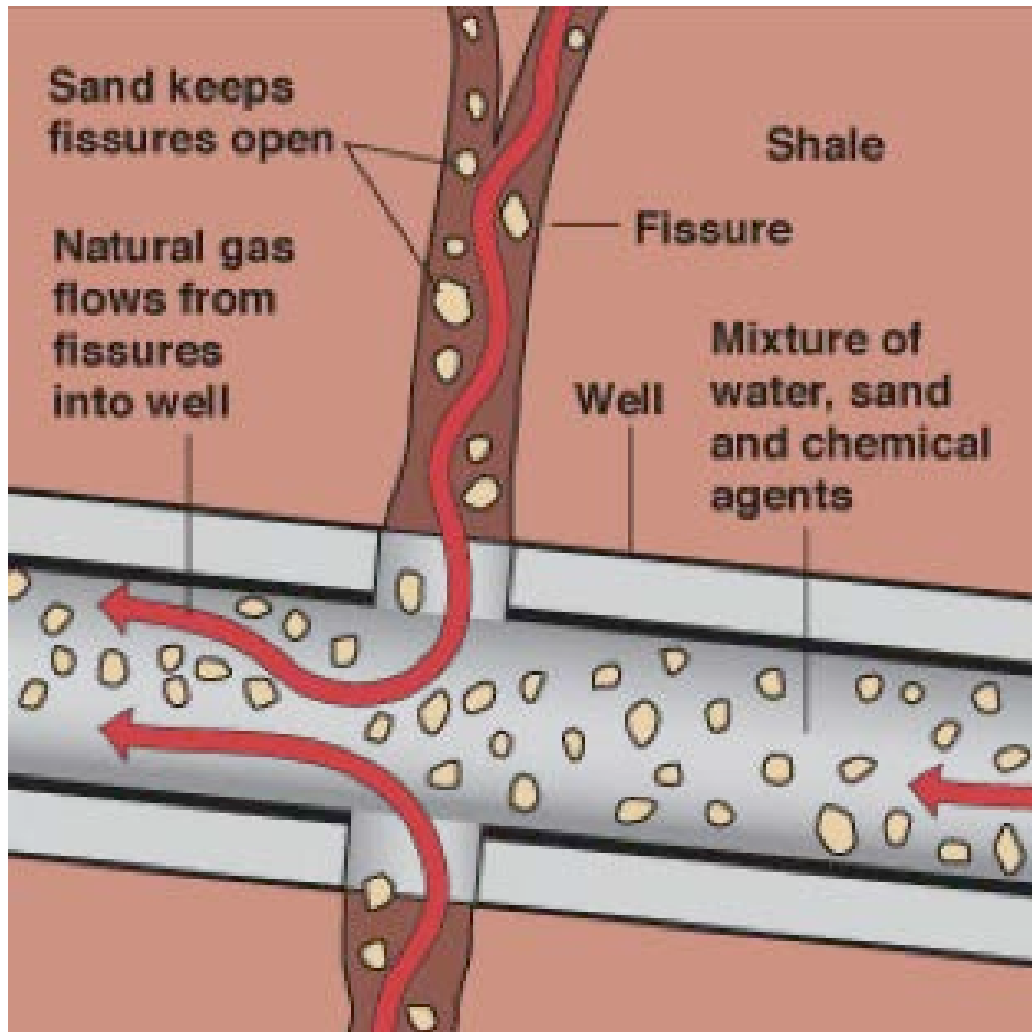
Picture 2(b)

Shows how the gas companies get shale gas out of the ground using fracking.



Picture 3

Shows how sand flows into the cracks in the shale rock and how gas flows out of the rock into the well.

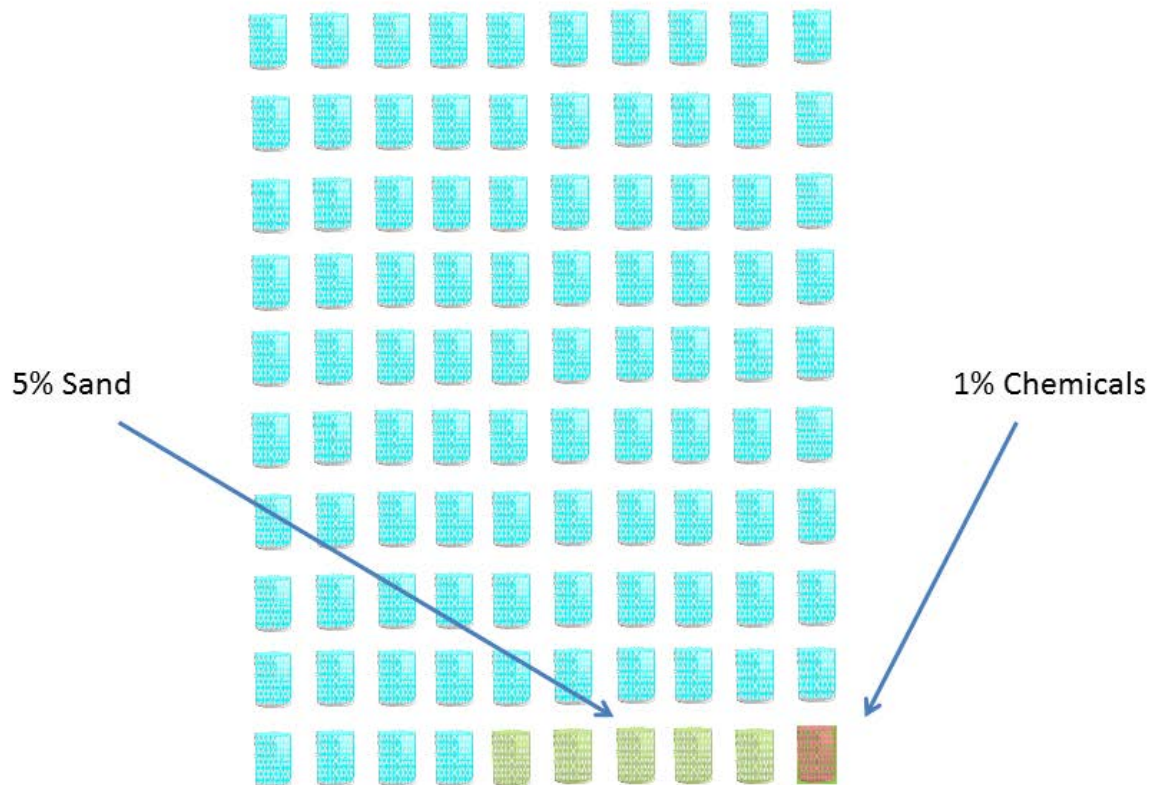


Picture 4

Shows the meaning of 1% chemicals and 5% sand

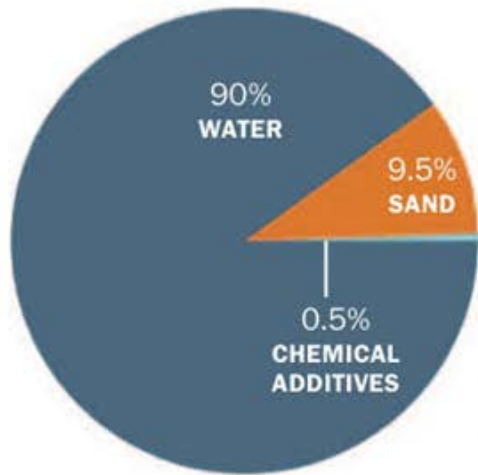
1% chemicals means 1 glass out of 100 glasses of water

5% sand means 5 glasses out of 100 glasses would be sand



Picture 5

Shows the chemicals that are added to water to help hydraulic fracturing



Note: BTEX additives are banned in the NT

Compound	Purpose	Common application
Acids	Helps dissolve minerals and initiate fissure in rock (pre-fracture)	Swimming pool cleaner
Sodium Chloride	Allows a delayed breakdown of the gel polymer chains	Table salt
Polyacrylamide	Minimizes the friction between fluid and pipe	Water treatment, soil conditioner
Ethylene Glycol	Prevents scale deposits in the pipe	Automotive anti-freeze, deicing agent, household cleaners
Borate Salts	Maintains fluid viscosity as temperature increases	Laundry detergent, hand soap, cosmetics
Sodium/Potassium Carbonate	Maintains effectiveness of other components, such as crosslinkers	Washing soda, detergent, soap, water softener, glass, ceramics
Glutaraldehyde	Eliminates bacteria in the water	Disinfectant, sterilization of medical and dental equipment
Guar Gum	Thickens the water to suspend the sand	Thickener in cosmetics, baked goods, ice cream, toothpaste, sauces
Citric Acid	Prevents precipitation of metal oxides	Food additive; food and beverages; lemon juice
Isopropanol	Used to increase the viscosity of the fracture fluid	Glass cleaner, antiperspirant, hair coloring

